ABSTRACT OF THE DISCLOSURE

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A first power supply node supplies a first voltage level during a normal operational mode, and a second power supply node supplies a second voltage level during the normal operational mode. An input circuit, which is connected to the first power supply node, receives an input signal and generates a corresponding signal having the first voltage level during the normal operational mode. An output circuit, which is connected to the second power supply node, receives the signal having the first voltage level and generates a corresponding output signal having the second voltage level during the normal operational mode. A detection circuit detects an interruption in the supply of the first voltage level by the first power supply node, and electrically blocks at least one leakage current path in the output circuit during the interruption.